

ABSTRACT

A discrete rotor position estimation method for a synchronized reluctance motor is provided. A d.c.-link voltage V_{dc} and a phase current I_{ph} are sensed. A flux-linkage λ_{ph} of an active phase is calculated from the sensed d.c.-link voltage V_{dc} and the sensed phase current I_{ph} . The calculated flux-linkage λ_{ph} is compared with a reference flux-linkage λ_r . The reference flux-linkage λ_r corresponds to a reference angle θ_r , which lies between angles corresponding to aligned rotor position and non-aligned rotor position in the synchronized reluctance motor. An estimated rotor position θ_{cal} is obtained only once when the calculated flux-linkage λ_{ph} is greater than the reference flux-linkage λ_r .